

## ABSTRACT

There are provided a water-lifting pump apparatus which is free of a discharge valve and a check valve, is low in cost, and is capable of reducing vibration and noise due to a waterfall after the end of water pumping operation, and a method of controlling operation of the water-lifting pump apparatus. The water-lifting pump apparatus has a suction tank (10), a discharge tank (20), a pump (30) for pumping water in the suction tank (10) into the discharge tank (20), and a discharge piping (50) connected to a discharge side of the pump, an actuating means (60) for actuating the pump (50), a reverse flow preventing mechanism (80) for preventing a reverse flow of water pumped into the discharge tank (20) toward the discharge piping (50), and a back flow rate control means (90) for controlling the flow rate of a waterfall falling from the discharge piping (50) into the suction tank (10) when pumping operation is finished.